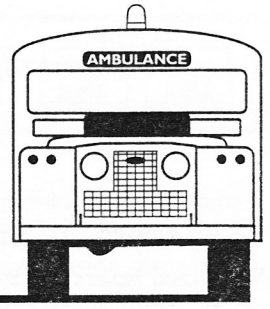


# OTTAWA VALLEY LAND ROVERS



Volume XIII, Number 11  
PO Box 36055, 1318 Wellington Street, Ottawa, Ontario, CANADA K1Y 4V3







1016 Normandy Crescent, Ottawa, Ontario, Canada K2C 0L4

## General Information

Ottawa Valley Land Rovers is the oldest and largest Land Rover club in Canada. Membership is open to all Land Rover enthusiasts. Executive meetings are held on the first Monday of every month. Social meetings are held on the third Monday of every month, generally at the Prescott Hotel on Preston Street.

OVLV offers a monthly newsletter and a variety of activities throughout the year, from mechanical seminars and off-road rallies to social events and family oriented outings. Members receive discounts on parts from a number of North American suppliers. Off-road activities come in several categories. The light version, which is usually entertainment during a rally or at one of our family summer events, consists of a little "mud bogging" or tours along country lanes. The heavy stuff, which is usually several days across public lands navigating by compass, topographical maps and aerial photos, involves bridge building, river barging, and driving conditions ranging from cedar swamp to rocky hill winning.

Membership: Those joining throughout the year pay a flat \$20 per year, membership expires one year from the last dues submission.

### Visit the OVLV Web site:

<http://www.ridgecrest.ca.us/OVLV/>

## The Ottawa Valley Land Rovers Newsletter

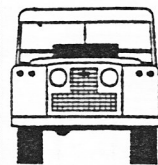
is published twelve times per year for club members. The editor welcomes submissions of text and photographs for publication.

**Deadlines:** Submissions to the OVLV Newsletter must be received by the first of every month for inclusion in that month's newsletter. All items submitted for publication should be legible and signed. Names maybe withheld at the request of the writer. This is your newsletter. If you wish to write anything, we welcome your input, in any format.

**Editorial Policy:** The Editor of the OVLV newsletter reserves the right to edit any submitted material for space and content considerations. Articles, statements, and opinions appearing in the OVLV newsletter do not necessarily reflect the position of the officers, board of directors, members of the OVLV, or its sponsors or advertisers. Where specific data regarding operation, safety, repairs, or legislation are concerned you are advised to obtain independent verification. The Club, officers, and contributors can accept no responsibility for the result of errors or omissions given in this newsletter or by any other means.

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**Advertising Rates:** Cometic with other North American Land Rover clubs. Available upon request.



# Upcoming Events

**November 18th Social at the Prescott**

**December 2nd Executive meeting 6:30pm**

Sam & Sams Restaurant, Richmond Road, Westboro,

**December 7th Annual Christmas Party**

**Location:** Upstairs at the Prescott

**Time:** 6 pm arrival

7:30pm dinner is served

8:30pm awards, presentations

9:00pm Auction(?), foolishness after

**Food:** Turkey dinner with all the fixings

**Cost:** \$15.00 a head (same as past couple of years)

**Events:** Awards, the feelie meelie and whatever else can be thought up as well as voting for the next Executive

**December 16th Social at the Prescott**

**January 6th Executive Meeting**

**January 8th Annual General Meeting 7pm**

National News, 2655 Lancaster Road, Ottawa

Final votes are counted, new Executive takes over.

## The OVLV Newsletter

Ottawa Valley Land Rovers Newsletter  
November, 1996

**Editor:** Dixon Kenner (dkenner@emr.ca)  
(h) 613 722-1336 (w) 613 947-7364

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**Contributors:** Mike Rooth, Al Richer, Bill Leacock, Jeff Aronson

**Other help:** Bob Wood, Desperate Dale, Murray Jackson, Fred Joyce, Bruce Ricker, Andrew Finlayson, Sean McGuire.

**Cover:** Bill Kessells on the morning light <cough> off-road.  
13th Birthday Party, Silver Lake. Photo: Jeff Meyers

President: Jason Dowell (819 595-4593)  
Vice-President: Roy Bailie (613 523-5740)

Secretary: Dixon Kenner (613 722-1336)  
Treasurer: Janet Dowell (819 827-2932)

November 10, 1996

Greetings,

Many local members around Ottawa will have noticed the nomination forms for next years Executive in this newsletter and the one before. You can basically nominate any member living within eastern Ontario for a position on the Executive. The details are on the form. Please complete the form and return it to the Returning Officer (Dixon Kenner) or mail it to the club address, or hand deliver to the Returning Officer *before* the Christmas Party. Voting will start at the Christmas Party. Counting the ballots will not occur until the Annual General Meeting in January to give out of town members the opportunity to mail in their ballots (note the change of address on the first page). The results will be announced during the AGM on January 8th at National News on Lancaster Road.

The Christmas Party will be at the same location as last year, namely the Prescott Hotel. It will have the same format as last year. There will be some various games as well as the usual feelie-meelie competition for both the guys and the gals, there will be the traditional awards to some very deserving individuals (even if you consider yourself framed, it just means that we didn't catch you, but know that you are covering up). Now these individuals do have the opportunity to save themselves from glory. They can snitch on someone else in hopes of diverting attention. Yes, its true, the members of the Executive who determine these things can look to be bribed. For the auction, our chief auctioneer, Bates, is planning on adding engraved, single malt glasses (glass AC fuel bowls for the uninitiated) to the list of auction items. Some of these will be put aside for those people can not make it to the Christmas Party. Price will be what-ever arises from the auction.

The Club trailer has been fully inventoried (anyone that wants a really long list of what resides in it drop a line) and has been moved down to Harry's place for the winter. Harry is under strict instructions not to add a satellite dishes or any of the other grandiose ideas he has for it. At the November Executive meeting, Jason thanked Mike McDermott for his years of effort on the trailer, pointing out that it has been a great success and a good asset for the club, but all agreed that the time has come to pass responsibility on. Next year's Executive will appoint someone to manage the trailer in Mike's place.

Grille badges are on the way. Samples have been sent from the company to the club. The badges will be made of a nickle-bronze alloy, be roughly four and a half inches by about two and a half inches. The raised portion will be silver (bare metal) in colour, the background either black or green. The cost will be \$20.00 each. We will be getting fifty, of which nearly a dozen are already spoken for at the time of writing. If you want one, drop a note to the club address. Postage costs will appear in the next newsletter.

## OTHER NEWS, REBUILDS/PROJECTS, LIES, RUMOURS, TRIVIA...

● Editor type stuff: The collation crew has been described by some in varying terms. Dave Meadows has written in the past that we are generally a bunch of beer swilling, pizza eating reprobates, which all in all is not a too inaccurate description. Well, the last collation took a different twist thanks to Sean McGuire. Rather than staged at Bob's, it took place at Sean's abode where there was a BBQ going, and some nice slabs of venison on said bar-bee. Add some scotch with the beer and you have the recipe for a memorable stuffing. Thanks to the crew of Dale, Murray, Fred, Bruce (with the homemade pea soup) Andrew, Bob, and especially Sean for the October newsletter collation. (Now, some will ask the question... Was this roadkill or not?)

Once in a while as you play editor or some member of the Executive, you get some rather interesting telephone calls. I have had everything from "How do I air-condition my Land Rover" to the usual, "I bought this in England (usually a late model Defender) and want to import it into the USA/Canada" However, this one has to be the best so far. The guilty party's name is deliberately suppressed (he is offering me much Guinness for this...) "*Hi I'm \_\_\_\_\_'s girlfriend. I want you to throw him out of the club because I don't get no nookie nomore*"

Treasurer type stuff: *(To save space this month, only changes, year to date, are printed)*

Income	Memberships	\$2,906.11	Expenses	Trailer	\$188.20
	Other	\$40.00		Newsletter	\$2,329.11
				Bank charges	\$67.00
				Misc (maps stamps)	\$38.12
				Address change	<u>\$135.89</u>
Total		<u>\$9576.17</u>		Total	\$5,495.16

● A note from **Roy Caldwell** (Montana): Just got the newsletter. Again a fine job and fun. The song was great fun. I thought I should send a few notes to let you know I am still alive and kicking.

The new frame is under the 62 IIA, 88. But I am learning a great deal about assembly sequencing. The project has turned very ugly in some respects. The original intent was to stuff the frame under her and then keep driving. Well, as you have all experienced, as long as this thing is apart I should really clean up this and paint that. The end result is that more things are getting rebuilt and cleaned than the original allocation of money or time can support. A friend, who drives a J##P looked at her and ask, " Do you have all the parts? " I replied, dramatically sweeping my arm around the garage, " Sure! everything is someplace in here. "

The project to date goes something like this. The new/old frame has been painted with a left hand outrigger for the new side reserve fuel tank. All new bushing are in the frame and the painted road springs are bolted on along with the axles. The firewall was sandblasted and repainted in Land Rover Limestone. It is bolted on and the original wiring loom, nailed to a board, is being prepped for installation. All other bits and pieces have been or are being cleaned for painting. The Kodiak heater has been cleaned and waiting on the shelf. A military tire mount has been made and installed on the bonnet and the front bumper was re- manufactured and is waiting for a money in-put to finish the Pink Panther bumper tire mount. The reserve fuel tank is in place but requires a bit of minor work from a radiator shop.

She is breathing, barely, and I was hoping to have her on the road this summer. Biggest problem has been time and money. Not a new situation for most of us. Missed going to Bosnia for six months. But the next US Operation Other Than War (OOTW) will probably see my detachment being called for duty. As for other Land Rover activities, I did drive to Portland Oregon for the Portland British Car show where I represented OVLR with Ben Smith. 93 Land Rovers made it to that show.

● *Land Rover Owner* magazine for November has a of couple columns on the Birthday Party in the Clubs section (pp. 129). Two photos made it into the article, one of Paul Champagne in his white Range Rover crossing the pond and a second with Fred Joyce on the morning light off-road.



- **Andy Graham**, having vacuumed up a portion of Robin's Land Rover toy collection, is thinking of sharing his knowledge in a series of columns in the newsletter. Of course, by writing this, I am taking up the space that would normally go to reminding people about past performance regarding his 1:1 scale model of a 109. A good exchange for all I think...
- The club has received the British Car Council *Peace of Mind Service Guide* (subtitle: Where to fix your British car in Toronto). Anyone that wants a copy, give a ring...
- A note from **Russell Wilson**: Yesterday we removed the cancerous frame...out the door baby. The new frame is now sitting on front suspension. The place where we are working is an old steel mill with still working overhead cranes. What a life saver! You have never seen a sight as wonderful as my old frame being whisked away hung by a chain dangling 10ft in the air and being deposited onto the back of Scott's truck with out any of us having to cough up a testicle to move the thing. The new frame got to take the same crane ride from the storage area to the work area. Once again Jon came through with expert advice and guidance. He has been a huge help. There is no way this would have been possible without him around. In the next few days I hope to get the rear suspension attached and the engine mounted. The bulkhead is still being repaired... more news as it happens.
- While **Murray Jackson** is working out the differences between the wheelbase of an Austin Taxi and a Land Rover **Alan Richer** is succumbing to the normal operation procedures of owning a Land Rover. While changing his timing belt he dumped coolant into the sump. Alan quickly separated the coolant out and reused both, stating that they were both new. We applaud this move. It displays the right attitude.
- We are looking for candidates for the **Lugnut** and **Towball** awards. We know that there have been some excellent candidates this year. Some we have written about, some we have kept quiet about (Dale's guide to replacing fuel lines in his diesel..., Murray Jackson on Lightweight storage techniques, Sean McGuire on... Opps, sorry, promised not to mention *that...*) However, more fodder for the secret decision making process is required. Come on, snitch on a friend. You will feel better for it. Honest!
- **Rod Steele** (formerly of Killarney) sends this note: "I have access to a superb colour scanner, and would like to compile a photo file of the following: - Every type of LR variation irrespective of age or model, and a description; - LRs that are for sale, or sitting around and could possibly be bought, with a contact name and phone number for interested parties; - Every variation of accessory that has been used on LR's, even accessories seen on other vehicles (eg. tractors or other 4x4's) that might work on LR's; - Odd LR's seen about that might be of interest to other enthusiasts. A complete copy of the growing catalogue of photos and descriptions will be available to anyone who contributes, printed out on a colour inkjet, or as a file in wordperfect, or just copies of the bitmap photofiles. Posted or emailed. The object is to compile a comprehensive file, which enthusiasts can make use of or just drool over (as I will). Any photos sent in, will be scanned ASAP, and the photos returned to their owners with an updated copy of the file in a newsletter type format, please add details or a few words of description or location if possible. My postal address is: Rod Steele, 34 Luster Drive, Batesville, Arkansas, 72501. Please participate, no contribution is a waste,

### NEW MEMBERS...

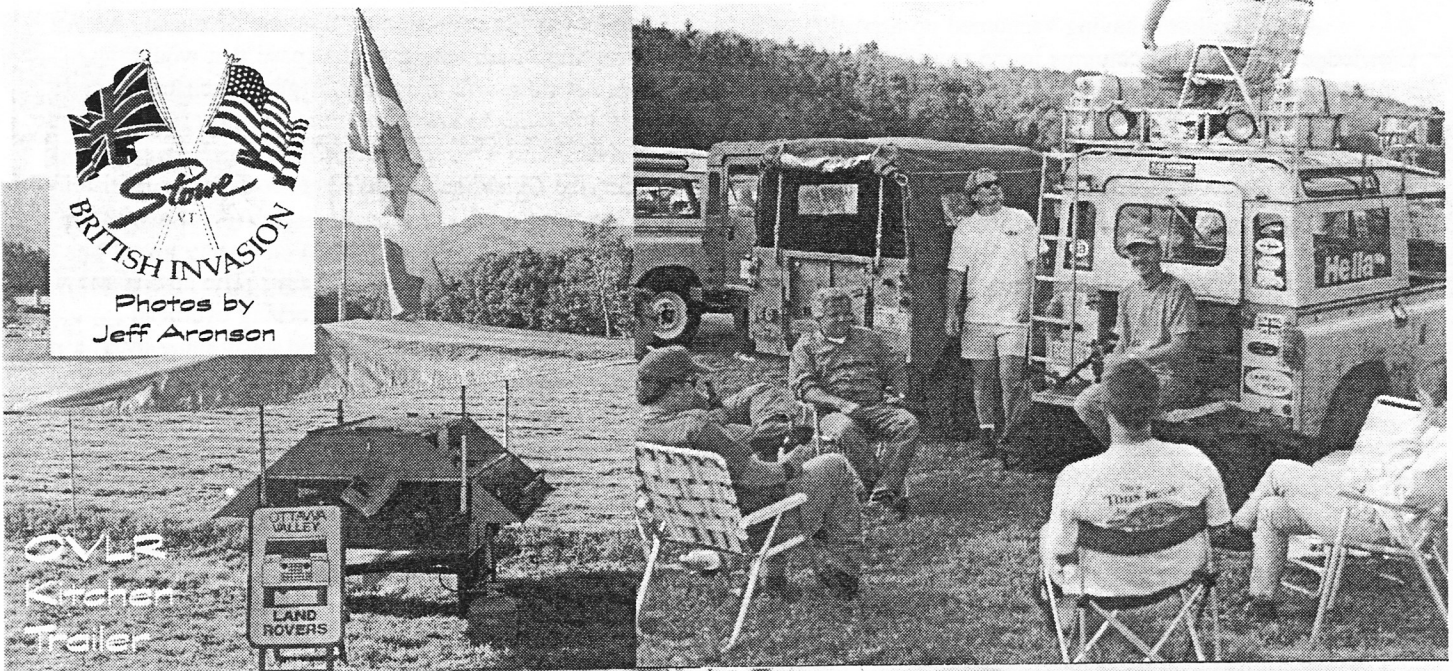
Only two new members join our ranks this month. Francois found the usual motley lot at the Prescott Tavern on the third Monday of every month.

- **Francois Juneau** of Ottawa joins. Francois has more than two years into the restoration of a Unimog 404, which he promises will be at the next Birthday Party for some comparison work with any 101s that appear.
- **Simon Davidson** of Westmount Quebec joins. Simon has a Defender 90 that he recently acquired.





Photos by  
Jeff Aronson



OVLR  
Kitchen  
Trailer



Pam Haigh's 88"



Modeline  
&  
Desperate



Jean-Louis Giguère's  
88" Series II spray rig



Meeting of  
the minds

Long drive?

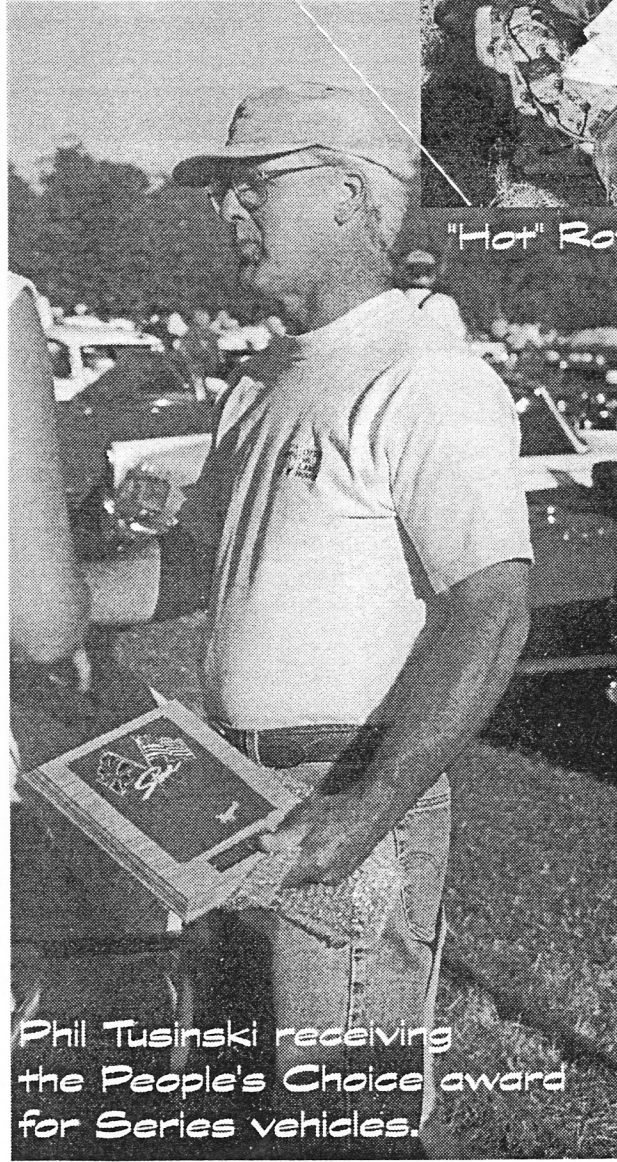
Spenny -  
Single and  
Conservative  
Looking for  
Miss Right!





Zippy bows to Spenny's new tranny...

OVL R Camp



Phil Tusinski receiving the People's Choice award for Series vehicles.



"Hot" Rovers!

Eric Zipkins 109" Stage One



Too many free samples???

Eric & Jeff @ Ben & Jerry's

Photo by Spenny



**British Invasion, Stowe, Vermont By Jeffrey Aronson**

The hills of Stowe, Vermont, were alive with the sound of music. At least, it was music to the ears of British car enthusiasts. Of course, to the owners of the 450+ pristinely restored British cars in attendance, the frightening, anvil-clanging sounds of Dale Desprey's Series II-A diesel did not constitute "music." There were another 52 British cars in Stowe that weekend of September 20, all products of Solihull. Thirty-eight Series Rovers joined everything from new Range Rovers, Defenders, and Discoverys on the field. To the organizers of the British Invasion, the growth in the Land Rover class - now rivalling MG's, Triumphs, and Austin Healeys - represents the fall of the ruling classes. It would not surprise me if Anacin or Excedrin are invited to be official sponsors next year.

It's not that the Land Rover owners, 28 of them OVLRL members, behaved badly. The class system established by the organizers separated the "Current Series" from the older Series, perhaps on the assumption that the Range Rover owners might exercise discipline over the Series owners. After all, you did not see any 4.0 SE decked out in Camel Trophy gear. No Discovery featured a sign announcing it as "The Love Shack." Nor were the grounds around the newer product filled with transmissions on the ground, hammocks tied between roof racks, or lawn chairs circling overflowing coolers. At 10:00 am...

As a Yank, and a new member of OVLRL, I relished the chance to meet and marvel at Canadians. Dixon Kenner guarded the OVLRL trailer by camping his 109" beside it, giving heart palpitations to the organizers who arrived early Saturday and Sunday morning. You could see them shielding the eyes of sponsors, such as Meiguars' "car care products," who had paid dearly for the privilege and now wondered, "why?" Indeed, while those who preregistered their Jags and Aston Martins delighted in the "gifts" of striped golf umbrellas and Meiguars' products, Series owners saw replacement fabric for torn seats and petroleum-based liquids that might tighten a steering relay someday.

The Saturday show day featured marvellous weather and great entertainment. Pam Haigh's refurbished Series SWB colour choice, Screaming Yellow Zonker, took your breath away but did capture attention as the point vehicle for the newly-created Green Mountain Land Rover Club. Spencer Norcross took strong steps to secure the Lugnut Award by lurching his transmission on his newly-rebuilt Series II-A. Dixon brought him a replacement for Charlie Haigh's ministrations, but before it went to Charlie, several club members bathed it in beer (it's the only thing Bud is good for) and Eric Zipkin performed a bizarre religious rite, genuflecting over the gearbox. Roy Bailie, Mike Loiodice, and Guy Arnold shared the faded elegance of the 88's with the huge crowd, I got to meet so many people, like Dale Desprey, Murray Jackson, and Michel Bertrand, whom I had only read about in Dixon's reports. Meeting them relieved many anxieties. The lack of an off road event bothered many of us, and Saturday night, along with members of the Bay State Rover Owners Club, we scoured a topographical map for a route. When we found one, the call went over the CB to the 5 assembled Rover to "douse your headlights so no one will know we're here." Since we all had our CB's tuned up to "Rover interior volume" level, with windows open and soft tops rolled up, the call echoed through the valley as if Inspector Closeau himself had given the warning. We found a snowmobile access trail up the side of a long hill and blazed into the woods for two hours.

Saturday, the large crowd watched the Rover group with the wariness associated with being at Parc Safari Africain when you fear the lions have gone without food for some time. Perhaps their worst fears, though, were confirmed when the "Merrill Lynch Bull Pit" tug of war renewed the vicious rivalry between the assembled Mini owners and the Land Rover owners. Held at the ungodly hour of 10 am Sunday morning, many Rover owners were in peak, not peak, condition, and thoroughly outnumbered, we lost the first pull. Demanding a rematch, and putting down some Labatt's, we seemed well on our way to victory when suspiciously, we found ourselves losing ground and eventually, the match. Once the Mini owners parted from the line, we saw their secret weapon - a Mini Moke secured tightly to the end of the rope. We learned that the owner had stood on the brakes and found his vehicle being dragged across the line, until he started it and dumped it into reverse. Led by several Canadians, we exacted revenge by noisily marching over to the Moke (think "Braveheart"), lifting it to shoulder height, and threatening to deposit it in the woods. The chastened Mini owners bowed and scraped for mercy. We looked at our work, saw it was good, and took pity.

The OVLRL and Bay State Rover Owners Club split a cash prize which was donated to the Vermont Children's Aid Society, the event's designated charity. Stowe did feature a magnificent turnout of British cars, most polished to Hollywood finishes. The newer Rovers looked terrific and the Series vehicles looked, well, classic.



**SOME NON-OVLR NEWS AND RUMOURS...**

● Tired of trying to source a part which some say is going out of production, or is just plain expensive? Here is another alternative part for the hydraulic switch on the IIA brakes system: The thread on the pressure switch is 1/8 National Pipe Thread, 27 threads per inch. The VW Bug one fits, 1963-69 Beetle etc. J.C. Whitney #74KA7319A, price US\$2.95. Been in mine for two years no problem. Though, I do not like putting German Bug parts in my British Land Rover. Please don't tell anyone... (submitted by anonymous)

● Sometime back there was a discussion regarding winching. I ran across an interesting little Field Manual this weekend at Reserve Drill. The title is Vehicle Recovery Operations FM 20-22. Very interesting. While recovering an M1A1-A2 will probably never be necessary, there is a lot of other rigging and winching things in the manual that are very applicable to Rovers off road. This FM 20-22 was also co-written by the Marines. So it has a good section on water recovery. Oh, and by the way those shackles on military vehicles are not just used for tie-down during transport. They are for recovery. An interesting table in the manual is Winch Variable Capacities.

Winch Type	Cable Layer	Cable on Drum (ft)	Capacity (tons)
5 ton	1	0-39	5.000
	2	40-85	4.225
	3	86-138	3.670
	4	139-199	3.230
	5	200-266	2.890
10 ton	1	0-41	10.000
	2	42-91	8.450
	3	92-148	7.250
	4	149-213	6.400
	5	214-287	5.700

The table goes up to a 45 ton winch. Of course the 45 ton winch has 45 at 0-41 fit of cable on the drum. But with only 4 wraps of 150-200 ft of cable, the winch is only pulling 28.500 tons. This is just an example of some of the good stuff in the FM. It appears to have a Government Printing Office Number on the back. If anybody's near one of their offices, you might check for availability. The publication number is 311-831 (44269). That may or may not be correct. Just thought I would pass that along. It is sometimes amazing where you can find quality information that relates to Rovers.

● Though we understand many members do not have internet access, sometimes it is interesting to supply some specific references. Here are some interesting websites with respect to winches, etc.

- **Mile Marker** (hydraulic PTO Winches)  
<http://www.teleport.com/~winches/home.htm>  
 with an interesting comparison at  
<http://www.teleport.com/~winches/florida.htm>
- **Warn Industries** (electric winches, other 4x4 stuff)  
<http://www.teleport.com/~warn/>
- **Superwinch** (electric and hydraulic winches and accessories)  
<http://www.superwinch.com/>
- **Ramsey Winch** (electric and hydraulic winches, etc.)  
<http://www.ramsey.com/>

● "Land Rover has made ownership of its vehicles a hobby, complete with a prefab social circle of the like minded". From *Autoweek* (November 4, 1996, pp24-26) three page article on the Land Rover Centre strategy. The only mention of Series LR is that the "indelible image is that of Malin Perkins and the dogged Jim Fowler bouncing across the veld in a Series II, on their way to an adventure with lions and snakes." In the same issue is an article about a 1958 Toyota Land Cruiser, including mention that the Land Cruiser was a foot in the door in international markets. (from David Cockey)

- From the Anti-FAQ
- Q20. How many Land Rover Owners does it take to change a lightbulb?
- A. At least nine. The relative merits of genuine parts versus aftermarket products must be discussed, with of course, the consideration of the value of equivalent, common, American replacements, which leads to a lively symposium about the validity of non-original Land Rovers, degenerating into a heated argument about which particular Land Rover model is the best, incorporating, naturally, a joke about a Corgi or Dinky model being the best, starting a comparison of various miniature Land Rover collections, culminating with a trading frenzy, whilst the remaining participants rehash the benefits of cooking on a galvanized grill versus the resulting toxicity. Eventually the bulb \*is\* replaced, at which point, seeing as how it's Lucas Electrics, it promptly burns out again. [RS]

**GENERAL SERVICING  
REPAIRS, HUMOUR, TALES, TRIVIA, RAMBLING**

**There's a Moose loose about the Hoose, A Friday Story by Mike Rooth**

*(Last month Mike wrote: "Bastard. In future mate, just wish me a quiet life, please!" Fine, let's see what he has done this month...)*

Spent a wet Sun afternoon rejuvenating three hooters. Mate at work is getting his '69 11A ready for its first MOT since 1990, and the horn went up in smoke. So he brought in four of the most filthy, manky looking old hooters I've ever seen. We got one to work by the simple means of repeatedly dropping it on the floor from increasing heights. We found that standing on the bench helped. It finally emitted a strangled roar.

The rest went in the bin, from whence they were rapidly recovered. Well, you can't waste good spares, now can you? And Nora's hooter is such a wimp... Of course, the drop tested one turned out to be the wrong sort, i.e, the sort that is earthed by bolting it onto its bracket, the horn push working on the power side. Just like Nora's. The duff ones were all the proper sort, horn push making the circuit on the earth side. AND including a rather nice looking windtone Lucas, *many* years old. I'd been looking for summat like this for some time.

To acquire desirable items such as this, it is first necessary to convince the erstwhile owner that since the object in question is riveted together, it cannot be repaired. What you *really* mean is that it is not *meant* to be repaired, but with a certain degree of improvisation, forethought, bodging skills, and sheer downright bloodyminded *meanness*, of course it can.

The drilling machine made short work of the Lucas 9N, and a light bashing with a small hammer persuaded it to reveal its internal secrets. Rust. MUCH rust. Well, it *had* been in a barn for about fifteen years. On a shelf. And the roof leaks. Put a meter across it, no circuit. Clean points. Put on large battery charger. Better. Much better, about nine amps worth of better. Shove diaphragm back in and switch on. Um. Sort of gargled buzzing noise. Not the dignified note I'd hoped for. Still, worth proceeding, I thought. Replace the drilled out rivets with 4BA stainless nuts and bolts, (just

boasting, this, I acquired a lot of BA stainless some years ago) and try again. Nothing. Faint buzz, is all. Rats.

Now at this stage the trick is to work out what you haven't fiddled with so far, and then duly fiddle. In this case, rather what some *other* silly bugger has fiddled with... to whit, the large screw and even larger locking nut at the back, which limits the travel of the diaphragm solenoid slug. Well, he'd screwed it right in, hadn't he? So the diaphragm couldn't move could it? WHAT a lovely noise. Like a moose with piles. Nora gets this one.

The next one, also a Lucas, but not a windtone, conspired to lead me a not so merry dance. It came apart OK, and after point cleaning once or twice, even deigned to pass electricity through, but it would only gurgle with the diaphragm loosely attached. Snap the assembly together tight, and it wouldn't play. Bigger Rats. My reputation as a bodger was at stake here. *Very* serious. Now owing to a distinctly negative blood/alcohol level (That's my story, and I'm sticking to it) it took some time to realize that the solenoid slug actually *opens* the points mechanically, thus cutting off the juice, and allowing the diaphragm to act as a spring and pull the slug out again. And that being (relatively) Late Model Lucas, the little adjusting screw, which I'd been assiduously UNScrewing, was actually left hand thread... THAT one is good and lusty as well.

The final one was a Ford creation. If you think Lucas is cheap and cheerful, just look at Motorcraft. Suffice it to say it works now, but I have to confess, only for completeness and my bodging reputation.

Result? Two working hooters returned to their previous owner, said unscrupulous individual demanding real cash for the one I'd kept. I must admit without much conviction, especially after I'd mentioned the *shocking* cost of labour these days. Oh, and complaints from the DA. Apparently the dogs weren't as enamoured of the glorious sounds emanating from the garage as I was. Probably never heard a moose with piles before.....

**Axle stub removal revisited (submitted by Bill Leacock)**

With reference to the half shaft piece removal, method 2, when using a drift to remove the broken piece in situ, it often just falls out of the diff if it is tight, into the large gap, resulting in the need to remove the diff anyway, a solution to this is to obtain a length of plastic pipe which just clears the bore of the stub axle and insert it up to the diff, the broken piece is then

ejected into the pipe, enabling simple removal. For twenty years I have watched my fellow competitors do this, and resolved to make one for myself, but sloth has not allowed me to do it. I personally favour method 1 since it gives the opportunity to inspect the diff and to ensure that all the debris is removed, particularly behind the rear flange of the casing.



**Tutorial: Rebuilding the Rover steering relay by Alan Richer**

What a miserable job. It damned near killed me at least twice...

This is not a job I recommend for the weekend warrior mechanic. It requires good mechanical skills, a willingness to deal with nasty dangerous mechanical components, and ingenuity to deal with compressing large springs and securing them while assembling other bits around them. In short, this is ugly work.

Why would you want to rebuild a steering relay? Honestly, that's not an easy question to answer. With after-market replacements running about \$150 and a full kit of parts being about \$60-70 with seals, bushings and a new shaft, it's partially economic. The other part of it is that replacing the relay's innards is much easier than replacing the whole relay, as you won't need tactical nuclear explosives to get it out of the frame. That's why I did it - start to finish 3 hours and no front-end removal.

The tools you'll need (except for the spring compressor) are no more than the basics you already have for Rover repair, with the addition of a few sections of 1.5 inch iron pipe for use as a hollow drift for moving the bushings around in the relay. Also, a small hydraulic bottle jack can come in handy for moving a stuck shaft in the relay when a little direct force is needed.

**DISCLAIMER:** This is not a simple job, and it can lead to you getting very badly hurt if the spring gets loose. Be extremely cautious in dealing with the main spring and the split bushings, as a 100-pound spring can inflict a LOT of damage on you. Be cautious, and use the information in the manuals as a guide. If you get burned, zapped, stung bitten or whomped by the spring it's not my problem...

Well, now that we have THAT out of the way let's begin.

Put the Rover's wheels in the direct-forward position and remove the upper and lower arms from the steering relay. Don't forget, the bolts go through the shaft edge and have to come out completely to release the arms. Now, the relay's ready to come apart.

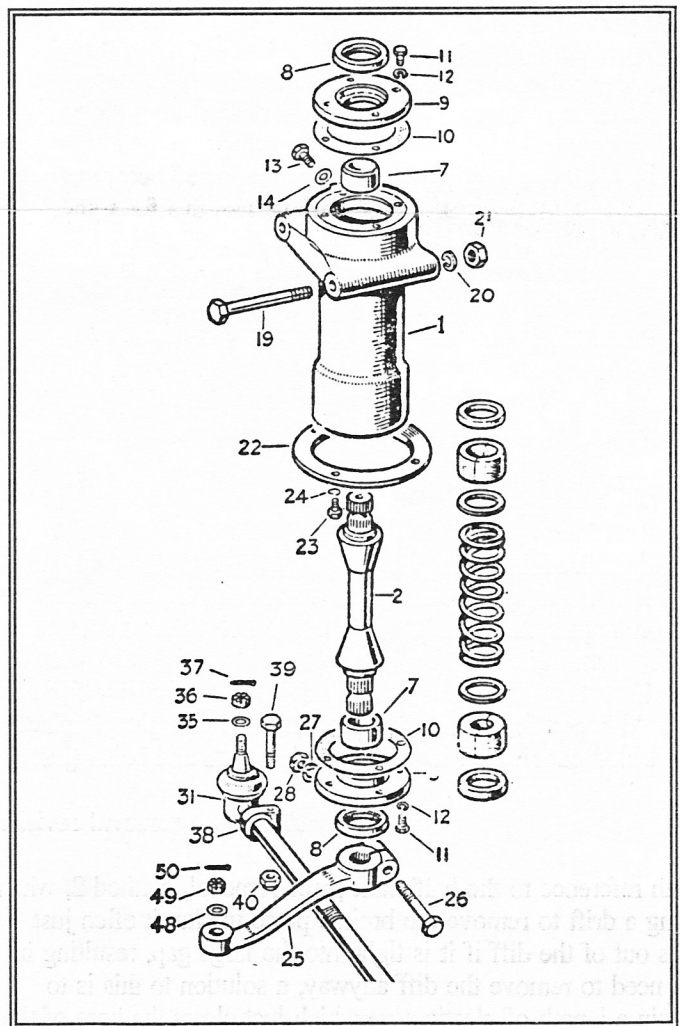
First thing in disassembly, make sure you pull the bottom mount ring - you can't get the bottom plate off otherwise. With that, I pulled the top and bottom plates, exposing a world of rust. Ick. I expect you'll find the same, so don't be surprised. The top seals on these often died, letting water and crud in to eat up the bushings.

If your relay is in half-decent shape, you should be able to tap the shaft out the bottom into a box padded with rags. The box will cushion the landing of all the bits as the tension comes off the spring. If not, as mine certainly wasn't, then you'll have to be more persuasive.

In disassembling mine, I hammered the shaft down for 5 minutes or so, basically doing nothing but bouncing the spring about. The bushes were so worn and rusted in place that NOBODY wanted to move. I ended up putting a jack under the lower bush set to get it to move, and hammering down the top one with a bar to do the same there.

Then, with the jack, I pushed the shaft up and out - not gradually, but all at once. I didn't mean to do it that way....

SPANNNNNNNNNNGGGGGGGGG!



I don't recommend this method if you value your peace of mind. If you need to push the shaft out the top, put the box over the relay to restrain the pieces coming out, and collect them once the spring's lost tension.

After retiring to the house to change my shorts, I collected all of the parts and retired to the workshop to clean them up. ICK.

The thrust washers were OK, as was the spring and the thin spring washers. The bushings were shot, and the shaft was an absolute mess.

In my case, being lucky enough to have a lathe I recut the oil seal races and the cones and managed to salvage my shaft. I wholeheartedly recommend replacing the relay shaft as a matter of course - the steel isn't terribly hard in these and the seal races wear very badly. The spring, thrust washers and flat washers in mine were entirely reusable with a bit of cleaning up on the wirebrush. Yours will no doubt be similar.

To recompress the spring I used a method recommended to me by Bill Maloney. It involves inserting a small drill rod through the cross-drilling on the older relay shafts and using this as a fulcrum to "screw" the spring down against one of the split bushing sets. It works well, but is nerve-wracking in practice.

The newer types with no cross drilling really do need the Rover tool for compressing the spring or an equivalent, as there's no easy way to get that thing tight and get the bushings on and secured. There are other methods, like pressing the spring and tying it with nylon line, but if you care to attempt these, you're on your own - I recommend the Rover tool or an equivalent.

For those with a cross-drilled shaft (a bolt in the top of the shaft to put oil into is a good identifier), here's the method I used.

I oiled and mounted the lower set of the bushings with a hose clamp, put one of the narrow spring washers into place, put a drill rod through the crossover and attempted to wind the spring down.

First off, don't use a nail or something like that. It's too soft, and could give way. I got halfway through winding it up with a nail and stopped 'cause the nail was bending. Drill rods are cheap and easy to get in a good tool supply. Worst-case, use a thin screwdriver - you need something with respectable steel.

Also, this will NOT work if you are holding the assembly in your hand.

The only way I managed to make it work for mine was to clamp the shaft in the lathe with the headstock locked so that I

could get both hands on the spring to wind it on. Even with this, it was a nerve-racking business. If you don't have a setup like this, I recommend a bench vise or the like with wooden blocks in the jaws to keep from deforming the splines on the end of the shaft.

Wind the spring on until the top of it clears the top cone of the shaft. Now, put on the other thin washer and a set of oiled bushings over the top cone and secure them with a 2" hose clamp, FIRMLY! You don't want them popping loose.

I finally got it all secured, then replaced the seals in the end caps (simple job - drive out the old ones and seat the new ones with a bit of sealer) and headed back outside to put it all back together.

I cleaned out the case with a wire brush on a drill extension shaft, then oiled the dickens out of it to get the bushings to slide (also having been oiled inside and out).

TIP:

Bevel the top edges of the top bushing set with a file. The inside of the relay is line-bored at the ends to give the bushings a good fit, but the centre is wider and the bushes expand as they go into it. You will spend a LOT of time pounding to get them into the second machined area if you don't bevel them to ride up into it.

After large amounts of pounding (see above) I got the silly thing back in. Once the shaft is in place and centred, all that needs to be done is to replace the top and bottom covers and refill the relay with oil.

2 things to note: The hardware on the case is not SAE - it's BSF! Don't confuse the bolts, and for pity's sake don't lose any. they're not easy to replace - don't ask me how I know...

Secondly, it's easier to get the top plate in first, then use it to finish-align the shaft. the bottom one will then push its thrust washer up into place nicely and seal it all up. Use Hylomar or the equivalent on the gaskets - they're leakers for sure if you don't.

What do I think of it?

It's holding oil now, it's no longer filled with rust, and it's a lot more solid than it was. I think I need to loosen up the steering box on my 109, but we'll see how that goes after the work and back run tomorrow.

The steering feels much more precise, somehow....